

7/17/2003

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention

DETECTION OF CHEMICAL LIGATION USING
FLUORESCENCE QUENCHING LEAVING GROUPS

Application Number :

Confirmation Number:

First Named Applicant: Eric KOOL

Attorney Docket Number: 12665.0024.NPUS01

Art Unit: 1637

Examiner: Teresa Stuebele

Search string: (5476925 or 5476930 or 5646260 or 5648480 or 5681943 or 5932718).pn

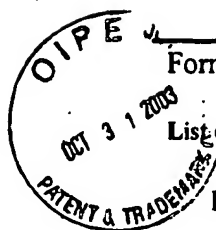
US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

| init | Cite.No. | Patent No. | Date | Patentee | Kind | Class | Subclass |
|------|----------|------------|------------|------------------|------|-------|----------|
| TS | 1 | 5476925 | 1995-12-19 | Letsinger et al. | | 536 | 23.1 |
| | 2 | 5476930 | 1995-12-19 | Letsinger et al. | | 536 | 25.3 |
| | 3 | 5646260 | 1997-07-08 | Letsinger et al. | | 536 | 23.1 |
| | 4 | 5648480 | 1997-07-15 | Letsinger et al. | | 536 | 25.34 |
| | 5 | 5681943 | 1997-10-28 | Letsinger et al. | | 536 | 25.33 |
| TS | 6 | 5932718 | 1999-08-03 | Letsinger et al. | | 536 | 25.33 |

Signature

| Examiner Name | Date |
|-----------------|---------|
| Teresa Stuebele | 4/12/06 |



Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.

12665.0024.NPUS01

Serial No.

10/604,400

Applicant

Eric T. Kool

Filing Date:

July 17, 2003

Group:

~~1645~~ 1637

U.S. Patent Documents

N/A

Foreign Patent Documents

N/A

Other Art

See Page 3

Other Art (Including Author, Title, Date, Pertinent Pages, Etc.)

| Exam. Init. | Ref. Des. | Citation |
|----------------|--------------|---|
| TS | ✓ C1 | "Nucleophilic Reactions of Some Nucleoside Phosphorothioates;" Stanislav Chladek and Joseph Nagyvary; J. Am. Chem. Soc.; Vol. 94, No. 6, March 22, 1972; pp. 2079-2085 |
| | ✓ C2 | "Nucleoside S-Alkyl Phosphorothioates. IV. Synthesis of Nucleoside Phosphorothioate Monoesters;" Alan F. Cook; J. Am. Chem. Soc.; Vol. 92, No. 1; January 14, 1970; pp. 190-195 |
| | ✓ C3 | "Multicolor Molecular Beacons for Allele Discrimination;" Sanjay Tyagi, Diana P. Bratu and Fred Russell Kramer; Nature Biotechnology, Vol. 16, January 1998; pp. 49 - 53 |
| | ✓ C4 | "Enhancement of Selectivity in Recognition of Nucleic Acids Via Chemical Autoligation;" Sergei M. Gryaznov; Ronald Schultz; Surendra K. Chaturvedi and Robert L. Letsinger; Nucleic Acids Research, Vol. 22, No. 12, June 25, 1994 Oxford University Press; pp. 2366 - 2369 |
| | ✓ C5 | "A Covalent Lock for Self-Assembled Oligonucleotide Conjugates;" Mathis K. Herrlein, Jeffrey S. Nelson and Robert L. Letsinger; J. Am. Chem. Soc.; Vol. 117, No. 40, October 11, 1995; pp. 10151-10152 |
| | ✓ C6 | "A Novel 5'-Iodonucleoside Allows Efficient Nonenzymatic Ligation of Single-stranded and Duplex DNAs;" Yanzheng Xu and Eric T. Kool; Tetrahedron Letters, Vol. 38, No. 32, August 11, 1997; pp. 5595-5598 |
| TS | ✓ C7 | "Quencher as Leaving Group: Efficient Detection of DNA-Joining Reactions;" Shinsuke Sando and Eric T. Kool; J. Am. Chem. Soc., Vol. 124, No. 10, 2002; pp. 2096-2097 |
| | C8 | "Molecular Genetic Imaging of RNA in Bacteria by Self-ligation of quenched DNAs;" Shinsuke Sando and Eric T. Kool; Department of Chemistry, Stanford University. |
| | C9 | |
| | C10 | |
| | C11 | |
| | C12 | |
| | C13 | |
| | C14 | |

EXAMINER:

Teresa Stuelcken

DATE CONSIDERED:

4/12/06

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)

Atty. Docket No.
12665.0024.NPUS01Serial No.
10/604,400

List of Patents and Publications for Applicant's

Applicant
Eric T. KOOL

INFORMATION DISCLOSURE STATEMENT

Filing Date:
July 17, 2003, 2003Group:
~~1645~~ 1637

(Use several sheets if necessary)

U.S. Patent Documents
N/AForeign Patent Documents
N/AOther Art
See Page 1

U.S. Patent Documents

| Exam. Init. | Ref. Des. | Document Number | Date | Name | Class | Sub Class | Filing date of App. |
|-------------|-----------|-----------------|------|------|-------|-----------|---------------------|
| | A1 | | | | | | |
| | A2 | | | | | | |
| | A3 | | | | | | |

Foreign Patent Documents

| Exam. Init. | Ref. Des. | Document Number | Date | Country | Class | Sub Class | Translation Yes/No |
|-------------|-----------|-----------------|------|---------|-------|-----------|--------------------|
| | B1 | | | | | | |
| | B2 | | | | | | |
| | B3 | | | | | | |

Other Art (Including Author, Title, Date, Pertinent Pages, Etc.)

| Exam. Init. | Ref. Des. | Citation |
|-------------|-----------|---|
| TS | C1 | "Oligonucleotides with Fluorescent Dyes at Opposite Ends Provide a Quenched Probe System Useful for Detecting PCR Product and Nucleic Acid Hybridization," Kenneth J. Livak, Susan J.A. Flood, Jeffrey Marmaro, William Giusti, and Karin Deetz; PCR Methods and Applications, Vol. 4, No. 6, June 1995; pp. 357-362. |
| | C2 | International Search Report from PCT/US03/22320, dated July 21, 2004 |
| | C3 | |
| | C4 | |
| | C5 | |

EXAMINER: Tessa Stuebel

DATE CONSIDERED: 4/12/06

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)